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Via on-line submittal

April 9, 2018

Department of Environmental Quality
Attention: Karen G. Sabasteanski
1111 East Main Street, Suite 1400
P.O. Box 1105
Richmond, VA 23218

Re: Proposed Regulation for Emissions Trading Programs (9VAC5-140)

Dear Ms. Sabasteanski:

Thank you for the opportunity to comment on DEQ's Proposed Regulation for Emissions Trading Programs. We fully support DEQ's efforts to help reduce GHG emissions in the Commonwealth through a market-based mechanism to help mitigate the impacts of climate change.

We are proud to be part of efforts already underway to reduce GHG emissions in Virginia. Covanta operates the energy-from-waste (EfW) facilities located in Fairfax County (Lorton) and Alexandria. These facilities, and other like them around the world, are recognized internationally as a source of Greenhouse gas (GHG) emissions mitigation and low carbon energy generation, including by the U.S. EPA;[1,2] U.S. EPA scientists;[3] the Intergovernmental Panel on Climate Change ("IPCC");[4] the World Economic Forum;[5] the European Union;[6,7] CalRecycle;[8] California Air Resources Board;[9] and the Joint Institute for Strategic Energy Analysis (NREL).[10] EfW facilities generate carbon offsets credits under both the Clean Development Mechanism (CDM) of the Kyoto Protocol and voluntary carbon offset markets.[11,12]

EfW was recognized as a compliance option for reducing GHG emissions from electricity generation in the final version of the U.S. EPA's Clean Power Plan promulgated in 2015. New EfW facilities were eligible to generate Emission Rate Credits (ERCs).[13] Existing facilities were not a covered source and were considered a source of zero carbon energy under the program.[14]

EfW's climate attributes are an important benefit to the Commonwealth of Virginia. On average, the U.S. EPA has determined that EfW facilities reduce lifecycle GHG emissions by one ton of CO_2

equivalents (CO2e) for every ton of MSW diverted from landfill and processed.[15] Based on Virginia specific data and information, including the emissions intensity of the local electrical grid, operating data from the Alexandria and Fairfax EfW facilities, and assuming that Virginia's EfW facilities displace landfills equipped with modern landfill gas to energy systems, every ton of MSW diverted to EfW's reduces GHG emissions by roughly 0.7 tons CO_2e. Covanta's Alexandria and Fairfax facilities annually reduce net GHG emissions by approximately over 900,000 tons of CO_2e a year relative to landfilling.

Capping emissions through a trading-ready approach will incentivize the use of low-carbon energy sources that promote economic development and job creation in the Commonwealth. To achieve the most cost-effective program, we support the inclusion and recognition of a full portfolio of available clean energy technologies and services, including wind, solar, energy efficiency, EfW, and other renewable technologies. We encourage DEQ and DMME to leverage the allowance set-aside mechanism to further support renewable generation in Virginia, both for existing facilities that face on-going operating costs as well as new capacity, inclusive of both greenfield development and additional generation achieved at existing facilities. We also support the DEQ's proposal to allocate allowances on the basis of regularly updated electricity output, as opposed to historical emissions. This approach provides the greatest alignment between the carbon intensity of electrical generation and the market-based policy signal.

We commend the DEQ for its work in establishing market-based policies that reduce GHG emissions from electricity generation in the Commonwealth of Virginia. Thank you again for the opportunity to comment and we look forward to working with DEQ and DMME as the regulations are finalized.

Sincerely,

Michael E. Van Brunt, P.E.

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[1] U.S. EPA Webpage, Energy Recovery from the Combustion of Municipal Solid Waste (MSW), accessed September 19, 2016. https://www.epa.gov/smm/energy-recovery-combustion-municipal-solid-waste-msw

[2] U.S. EPA Archived Webpage, Air Emissions from MSW Combustion Facilities, accessed September 19, 2016. https://archive.epa.gov/epawaste/nonhaz/municipal/web/html/airem.html

[3] Kaplan, P.O, J. DeCarolis, and S. Thorneloe, 2009, Is it better to burn or bury waste for clean electricity generation? *Environ. Sci. Technology* 43 (6) pp1711-1717. Available at: http://pubs.acs.org/doi/abs/10.1021/es802395e

[4] EfW identified as a "key mitigation measure" in IPCC, "Climate Change 2007: Synthesis Report. Contribution of Work Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change" [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp. Available at: http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm

[5] EfW identified as a key technology for a future low carbon energy system in World Economic Forum. *Green Investing: Towards a Clean Energy Infrastructure.* January 2009.

[6] EU policies promoting EfW as part of an integrated waste management strategy have been an overwhelming success, reducing GHG emissions over 72 million metric tonnes per year, see European Environment Agency, *Greenhouse gas emission trends and projections in Europe 2009: Tracking progress towards Kyoto targets* *http://www.eea.europa.eu/publications/eea_report_2009_9*

[7] European Environmental Agency (2008) Better management of municipal waste will reduce greenhouse gas emissions. Available at: http://www.eea.europa.eu/publications/briefing_2008_1/EN_Briefing_01-2008.pdf

[8] CalRecycle. 2012. CalRecycle Review of Waste-to-Energy and Avoided Landfill Methane Emissions. Available at: http://www.calrecycle.ca.gov/Actions/PublicNoticeDetail.aspx?id=735&aiid=689

[9] See Table 5 of California Air Resources Board (2014) *Proposed First Update to the Climate Change Scoping Plan: Building on the Framework, Appendix C – Focus Group Working Papers, Municipal Solid Waste Thermal Technologies*. https://www.arb.ca.gov/cc/waste/mswthermaltech.pdf

[10] Joint Institute for Strategic Energy Analysis (2013) *Waste Not, Want Not: Analyzing the Economic and Environmental Viability of Waste-to-Energy (WTE) Technology for Site-Specific Optimization of Renewable Energy Options*. http://www.nrel.gov/docs/fy13osti/52829.pdf

[11] Clean Development Mechanism: *Large-Scale Consolidated Methodology: Alternative waste treatment processes, ACM0022*. Available at: https://cdm.unfccc.int/methodologies/PAmethodologies/approved

[12] Verified Carbon Standard Project Database, http://www.vcsprojectdatabase.org/ See Project ID 290, Lee County Waste to Energy Facility 2007 Capital Expansion Project VCU, and Project ID 1036 Hillsborough County Waste to Energy (WtE) Facility 2009 Capital Expansion Unit 4.

[13] 40 CFR 60.5800

[14] 40 CFR 60.5845

[15] See U.S. EPA Office of Solid Waste, *Air Emissions from MSW Combustion Facilities*, https://archive.epa.gov/epawaste/nonhaz/municipal/web/html/airem.html and Center for American Progress (2013) *Energy from Waste Can Help Curb Greenhouse Gas Emissions* https://cdn.americanprogress.org/wp-content/uploads/2013/04/EnergyFromWaste-PDF1.pdf